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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/723,993	11/26/2003	Hiroaki Yamamoto	FUJH 20.767 (100794-00516)	7993
26304	7590	04/05/2006	EXAMINER	
KATTEN MUCHIN ROSENMAN LLP 575 MADISON AVENUE NEW YORK, NY 10022-2585			LEE, CHUN KUAN	
			ART UNIT	PAPER NUMBER

2181

DATE MAILED: 04/05/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/723,993	Applicant(s) YAMAMOTO ET AL.	
	Examiner Chun-Kuan (Mike) Lee	Art Unit 2181	

– The MAILING DATE of this communication appears on the cover sheet with the correspondence address –

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 January 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 2,3 and 5-8 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 2,3 and 5-8 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 November 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Fritz Fleming
Supervisory
FRITZ FLEMING
PRIMARY EXAMINER
GROUP 2100
AU2181 4/4/2006

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

1. Applicant's arguments with respect to claims 2-3 and 5-8 have been considered but are moot in view of the new ground(s) of rejection. Current office action is made final because of new limitations are presented in the independent claim 3, lines 2-4, wherein said new limitations were not present in any of the independent or dependent claims previously examined.
2. Claims 2-3 and 5-8 rejection under 35 U.S.C. § 112 are withdrawn, claims 1 and 4 are canceled and claims 2-3 and 5-8 are currently pending for examination.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 2-3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant Admitted Prior Art (AAPA) in view of Nagarajan et al. (US Patent 6,240,066).

4. As per claim 2, AAPA and Nagarajan teach all the limitation of claim 3 as discussed below, where AAPA further teaches the packet buffer management system comprising wherein said control method for the received packets includes delay for the packet, packet loss, packet order inversion, or error insertion, and said service classes are classified by an IP address or TCP/UDP port number comprised by the header portion of said packet (AAPA, Specification, page 2, l. 16 to page 3, l. 12).

5. As per claim 3, AAPA teaches a packet buffer management system, comprising:
a packet type identification control portion (Drawings, Fig. 17, ref. 2) attaching (attaching by appending) a TAG information for identifying a service class to a received packet according to an identification information of the received packet and outputting the received packet with the TAG information (Specification, page 2, ll. 16-26);

a buffer memory (Drawings, Fig. 17, ref. 6) to store the received packet (Specification, page 1, ll. 20-25); and

a buffer management control portion (Drawings, Fig. 17, ref 5) to control writing and reading the received packet attached with the TAG information to and from said buffer memory (Specification, page 2, l. 27 to page 3, l. 6),

wherein the buffer management control portion includes,

a service class characteristic table (Drawings, Fig. 17, ref. 8) in which an operation control is set for each received packet, corresponding to a service class, which is identified by the TAG information (Specification, page 2, ll. 16-26 and page 3, ll. 7-12); and,

wherein the service class characteristic table comprising the number of service class setting and the amount of buffer memory allocated to each COS area is uniform and fixed (Specification, page 2, l. 5 to page 4, l. 25).

AAPA does not teach the packet buffer management system, comprising:

a conversion table in which allocated areas of said buffer memory corresponding to service classes are stored,

wherein said conversion table modifies the allocated areas of said buffer memory according to the number of service class settings in said service class characteristic table.

Nagarajan teaches a packet management system comprising an algorithm for dynamically allocating and re-allocating (modifying by re-allocation) of buffers for an associated service class in a multi-class queue network switch (col. 1, l. 20 to col. 5, l. 13).

It would have been obvious to one of ordinary skill in this art, at the time of invention was made to include Nagarajan's algorithm for dynamic buffer allocation and re-allocation into AAPA's buffer management control portion. The resulting combination of the references teaches the implementation of a table utilizing the algorithm for dynamic allocation and re-allocation of the CoS area for each of the service class utilizing the number of service class set in the service class characteristic table.

Therefore, it would have been obvious to combine Nagarajan with AAPA for the benefit of ensuring maximum usage of the buffer resource by implementing tight allocation of buffer areas (Nagarajan, col. 2, l. 47 to col. 3, l. 59).

6. Claims 5 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant Admitted Prior Art (AAPA) and Nagarajan et al. (US Patent 6,240,066), and further in view of Bernath et al. (US Patent 6,526,070).

7. As per claim 5, AAPA and Nagarajan teach all the limitation of claim 3 as discussed above, where AAPA further teaches the packet buffer management system comprising:

a packet pointer management memory (AAPA, Drawings, Fig. 17, ref. 7) to store transfer pointers indicating the storage position of packets stored in said packet buffer (AAPA, Specification, page 3, ll. 3-23 and page 4, ll. 8-15),

wherein said buffer management control portion performs control of received packets based on packet existence notification (as packet is outputted from the packet type identification control portion) and based on the operation control for the received packets, set in said service class characteristic table (AAPA, Specification, page 2, l. 16 to page 3, l. 23).

AAPA does not teach the packet buffer management system comprising time stamp values indicating the time at which packets are stored and said buffer management control portion performs control of received packets based on time stamp values.

Bernath teaches a system and a method comprising:

a time tag (time stamp) value indicating the time at which packets are stored; and controlling responses associated with the received packets based on the time tag value (Fig. 7; col. 1, l. 14 to col. 5, l. 14 and col. 10, l. 10 to col. 11, l. 2).

It would have been obvious to one of ordinary skill in this art, at the time of invention was made to include Bernath's time tag into AAPA and Nagarajan's packet buffer management system.

Therefore, it would have been obvious to combine Bernath with AAPA and Nagarajan for the benefit of increasing data throughput by reducing collision of transferred data (Bernath, col. 1, l. 14 to col. 5, l. 14).

8. As per claim 8, APA, Nagarajan and Bernath teach all the limitations of claim 5 as discussed above, where AAPA and Bernath further teaches the packet buffer management system comprising means for storing in said packet pointer management memory the time of packet storage in said packet buffer as the time stamp and for judging whether the packet can be transferred by comparing said time stamp with the reference time (present local clock) within the buffer management control portion at the time of packet transfer analysis, wherein when a preset delay time has not elapsed, said time stamp is stored in a time stamp buffer provided in service class units, and in subsequent transfer analysis the time stamp within said time stamp buffer is compared with the reference time (Bernath, col. 10, l. 10 to col. 11, l. 2), wherein transmission of the packet is enabled only when the amount of time delay have elapsed resulting in the matching of the value of the present local clock (reference time) with the value of the

local time programmed into the upstream transmission time register, wherein the local time utilized for programming the upstream transmission time register is the time tag associated with the time which the packet was received and stored.

9. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant Admitted Prior Art (AAPA), Nagarajan et al. (US Patent 6,240,066) and Bernath et al. (US Patent 6,526,070), and further in view of Beshai et al. (US Patent 6,570,872).

AAPA, Nagarajan, and Bernath teach all the limitation of claim 5 as discussed above, where AAPA and Bernath further teach the packet buffer management system comprising wherein, as an operation control of said buffer management control portion, received packet order inversion are performed by moving the transfer pointer based on said time stamp value (AAPA, Specification, page 3, ll. 7-23 and Bernath, col. 10, l 10 to col. 11, l. 2), wherein the time stamp value will provide the transient order in which the packets are received and then utilizing each time stamp value associated with the received packet, the received order may be inverted accordingly.

AAPA, Nagarajan, and Bernath does not expressly teach router path modification are performed.

Beshai teaches a network switch comprising reconfiguration of the inlet-outlet path (router path modification) within a predefined transient time (col. 1, l. 13 to col. 4, l. 9).

It would have been obvious to one of ordinary skill in this art, at the time of invention was made to include Beshai's modifying by reconfiguration of the router path into AAPA, Nagarajan, and Bernath's packet buffer management system.

Therefore, it would have been obvious to combine Beshai with AAPA, Nagarajan, and Bernath for the benefit of interleaving time-critical data and delay-tolerant data on a shared transmission medium and increase data transfer by maximizing direct ingress/egress data transfer (Beshai, col. 1, l. 13 to col. 4, l. 9).

10. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant Admitted Prior Art (AAPA) and Nagarajan et al. (US Patent 6,240,066), and further in view of Kreifels (US Patent 4,891,788)

AAPA and Nagarajan teach all the limitation of claim 3 as discussed below, where AAPA further teaches the packet buffer management system comprising operations to store packets in said buffer memory, packet registration operations (wherein the packet is identified and the associated tag is appended to the packet), transfer pointer read operations, and packet transfer analysis operations (operation base on the CoS characteristic set in the service class characteristic table for the associated received packet) (AAPA, Specification, Fig. 17 and page 1, l. 20 to page 4, l. 15).

AAPA does not expressly teach that the operations are each performed in parallel.

Kreifels teaches a buffering system and a method wherein the read operation and write operation can be implemented simultaneously (in parallel) (col. 1, ll. 15-24).

It would have been obvious to one of ordinary skill in this art, at the time of invention was made to include Kreifels' simultaneous operation into AAPA and Nagarajan's packet buffer management system.

Therefore, it would have been obvious to combine Kreifels with AAPA and Nagarajan for the benefit of implementing an asynchronous operation, enabling faster processing of the received packet as one operation can operate without waiting for the completion of a previous operation (Kreifels, col. 1, ll. 15-24).

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chun-Kuan (Mike) Lee whose telephone number is (571) 272-0671. The examiner can normally be reached on 8AM to 5PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Fritz M. Fleming can be reached on (571) 272-4145. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

C.K.L.
04/05/2006

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